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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/020,594

12/13/2001

Jurgen Schredl

70408

7149

23872

7590

06/11/2007

MCGLEW & TUTTLE, PC

P.O. BOX 9227

SCARBOROUGH STATION

SCARBOROUGH, NY 10510-9227

EXAMINER

TRAN, LEN

ART UNIT

PAPER NUMBER

1725

MAIL DATE

DELIVERY MODE

06/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/020,594	Applicant(s) SCHREDL ET AL.	
	Examiner Len Tran	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-4, 12-15, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers et al (US 5,400,950) in view of Gotman (US 4,404,453).

Myers et al disclose a process of connecting two substrates comprising the steps of applying solder material to terminal areas of a first substrate to form electrically conductive spacing metallizations with solder material in direct contact with terminal areas (col. 1, lines 50-65 and col. 6, 34-40).

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Myers et al lacks the mentioning of partial fusion of the spacing metallization.

However, Gotman discloses using laser energy to partially melt the solder (col. 3, lines 19-22) for the purpose of avoiding or minimizing any damage to the parts being attached together (col. 2, lines 35-40). In addition, Gotman discloses heating the solder (72) to become partially liquefied and then fusion takes place, in which during the bonding action (col. 4, lines 18-36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide a laser heating means to partially melt the solder as taught by Gotman, in Myers et al in order to prevent any damage to the parts.

4. Claims 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers et al (US 5,400,950) in view of Leicht et al (U.S. 5,551,627)

Myers et al disclose the claimed invention above, but lacks the mentioning of adhesives.

Leicht et al disclose the process for producing a contact structure for connecting two substrates comprising the steps of applying solder material to terminal to form spacing metallizations, wherein an adhesive compound is applied to the solder (col. 4, lines 40-51) for the purpose for more capable of resisting fatigue.

Therefore, it would have been obvious to an ordinary skill in the art at the time applicant's invention was made to apply adhesives as taught by Leicht et al, in Myers et al in order to resist fatigue.

5. Claims 10, 11, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers et al (US '950) and further in view of Beddingfield et al (US 5,710,071).

Myers et al disclose the claimed invention above, but fail to teach filling the gap between the substrates with a filler material.

However, Beddingfield et al disclose applying a filler (encapsulant) material in the gap of the substrates for the purpose of expelling any trap air and to prevent the chip from warping (abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have filler material in between the substrates as taught by Beddingfield et al, in Myers et al in order to expel air and prevent warping.

Response to Arguments

6. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that Myers et al fail to teach an electrically conductive spacing metallizations. Examiner respectfully disagrees. In Myers et al, column 5, lines 35-36, the "dummy" solder (20) is electrically inactive, but not necessarily non-conductive. The dummy solder is for space controlled and it is electrically inactive. However, the solder material used by Myers et al is electrically conductive. Therefore, the claimed limitation does not overcome

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Myers et al. It is advise that applicant should amend the term, "electrically conductive" to -- electrically active --.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Inquiry

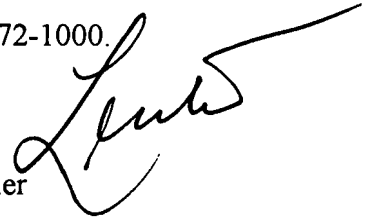
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Len Tran whose telephone number is (571) 272-1184. The examiner can normally be reached on M-F, 8:30 - 5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jonathan Johnson can be reached on 571-272-1177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Len Tran
Primary Examiner
Art Unit 1725



June 5, 2007